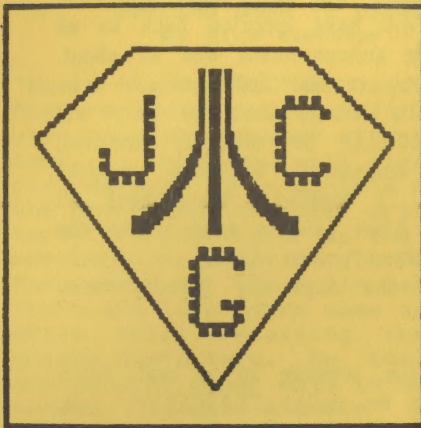




JACG JACG

NEWSLETTER
Vol.3 No.10

June 1984

Single Copy

Price \$1.50

THE JERSEY ATARI COMPUTER GROUP

★★★★★DISK LIBRARY LISTING/PART IV★★★★★

From the Editor's Desk...

Each second Saturday of the month is marked on most of our calendars with a reminder that it's JACG Day. You head off for Murray Hill knowing that there will be many good things to see and do that morning. You have come to expect a smooth running show with professional touches. It is always a good experience.

The main reason you get such good treatment is that there are many people who give considerable time each month to make the JACG tick neatly. Without question these people give scores of hours every year so the rest of us can enjoy the first class club we have. I am especially indebted to two of these people and would like to share a little behind the scenes insight with you this month.

You can only accomplish so much in an organization without money. Many is the club with good intentions that ceased to be because of fiscal mismanagement. We have been very lucky because our treasurer has kept our heads not only above water but has guided us to a point of considerable black ink. Rick Olson has served us as treasurer since our inception in 1981. He handles not only all the accounts, which are not few, but sees that new members are eased into the JACG with care. He maintains the mailing list and does a dozen more things, I'm sure, which we don't know. Rick is leaving us, going to Hong Kong on a company transfer and promotion. We thank him for all those hours and unsung chores and wish him and his family the best of all worlds.

A somewhat unusual thing has happened to the newsletter. It has gotten progressively thicker without having an attendant increase in membership dues to support that growth. We receive newsletters from about 75 other user's groups and the cost of membership is at least the size of ours but the newsletter is little more than a dittoed or xeroxed sheet. How come we can do that?

A big part of the answer is one man's name: Herb Lehner. Herb is our advertising manager and has not only been aggressively attracting paying advertisers but has initiated some very creative ideas to bring in additional revenue for the treasury. Money in equals lower relative cost per newsletter equals no increase in cost to you, the member. Herb initiated the Sources column. This month we have a number of paying customers there. The Executive Committee endorsed Herb's idea to require commercial sellers at JACG functions advertise in the newsletter. Next month we should have two full additional pages of advertising from national firms to further reduce costs. But Herb isn't done yet. He has some more ideas to help us minimize our costs. Thanks, Herb, from all of us.

Now, how about you? It's past time you were finding an ad or two, writing an article, or sharing ideas to make us a little bit better oiled. Don't sit back - Give A Bit!

Frank Pazel
Editor-in-Chief, JACG Newsletter

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MARK YOUR CALENDARS!!

JACG Meeting Schedule

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July 14, 1984

August 11, 1984

September 8, 1984

And Now A Word From The President...

I am writing this column on a very different computer! The keyboard is an Atari, but the rest looks rather alien to an Atari owner. In the memory board slots I have the following: a Newell operating system board, an Austin-Franklin 48K board, a PiggyProm board containing the Austin-Franklin ATR monitor program and the Austin-Franklin 80 column board. Then, attached to the plug on the side of the Atari are: a 64K ATR8000 and two double sided/double density disk drives (one MPI and one Tandon). Why??? Well, it appears I have gone through all of this so that I could be alternately frustrated by a myriad of hardware and software problems and excited by the awesome possibilities of the system. I am writing this using the WordStar word processor (although, in truth, I like Letter Perfect better). When I finish, I will load a program called FancyFont and I will print this file in the form you now see it. I was so impressed by the printing that I seem to have assembled this entire system to satisfy that need. In fact, there are other things I do with this entire setup, but this one is the most fun.

Anyway, enough of this and on to business. JACG has lost one of its most reliable officers. Rick Olson, our treasurer since our formation, got a better offer. His company is sending him and his family to Hong Kong for a several year stint and we wish them well. He will certainly qualify as our most distant member. As President, I have appointed Ron Kordos as Treasurer, to serve until our regular elections in the fall. He will then decide whether he wants to run for a full year. I think we will find Ron to be a worthy successor to Rick, whose shoes will, indeed, be very difficult to fill. I have seen in various newsletters from around the country how sloppy work by a treasurer led to many difficult situations for Atari groups. Rick was able to keep us out of trouble and keep our finances in good order, no mean feat.

I am writing this section on the afternoon of our experimental May 12th meeting. I, for one, was not at all sure that Jerry Frese could bring all the parts together and that the concept would work with our group. Well, I am here to report that it exceeded all of my expectations. The speakers were very good and well prepared (all 8 of them) and the audience was enthusiastic. I think everyone was able to get something special out of this meeting. I want to thank Jerry very much for his yeoman efforts and also thank all those who braved losing their voices by giving one presentation to eight different groups. Thank you to: Scott Brause, Bob Zornetzer, Nick Scalera, George Sneek, Jerry Banks, Don Forbes, Chuck Lichtenwalner and Jerry Frese (who not only organized the event but also gave one of the presentations).

By the time you get to read this, the summer Consumer Electronics Show will have come and gone and Art Leyenberger will have reported back to us as to what Atari's big announcement was all about. I have dusted off my crystal ball and it says (don't blame me if it's wrong) that not only will the long awaited 1450XLD be officially unveiled, but also a very innovative telephone product will be forthcoming. I longingly think back to last year's CES when Atari paid to send me to the show. Those were the "golden times" in Atari's history. Those were the days my friends, those were the

This year we have the promise of a real Atari national convention, to be called "TARICON". In this newsletter you will find a list of "800" (toll free) numbers for some companies that ought to be represented at this convention. Take a moment to call one or two of them and tell them that they ought to be there. That kind of personal contact will guarantee the success of this first-ever Atari get together.

A special thanks to Gemini Electronics is in order. We have gotten the following special considerations from them: a 1200 baud Hayes Smartmodem and disk drive at dealer cost plus an offer to match our \$100 donation to TARICON. I call that fantastic support for JACG and the Atari community.

Finally, AT LONG LAST, you will indeed be able to put your hot little hands on copies of "Basic Atari BASIC" by the time you read this. Visit your local computer store and demand that they order at least 1,000 copies of this awesome volume. Help send this author to camp this summer. Help support the starving hordes in High Bridge. Give a little to help a lot. Remember the Alamo. And remember: one reason computers can do more work than people is that they never have to stop and answer the telephone.

Richard Kushner - JACG President

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Getting Down To **BASICs** by Dick Kushner - JACG

"Basic Atari BASIC" by James S. Coan and Richard Kushner is OUT!!! Run down to your nearest computer store and give it a look. I think you will find it useful and informative. This month's column looks at the phenomenon of color artifacting. This technique adds color to the normally drab, but high resolution GRAPHICS 8 screen. Many games for the Apple make use of this technique to provide some additional color while still retaining the finely drawn arcade characters. On the Atari, there are several other ways to add color to the screen (player-missile graphics and display list interrupts are two examples). However, artifacting is easy to do and fun to play around with.

...Color Artifacting

GRAPHICS 8 has high resolution but little color. We can get extra colors out of this mode by taking advantage of the limited resolution of the television screen. A color TV produces color by directing the electron beam that writes the screen to illuminate combinations of the three colored phosphors that make up each point on the screen. With our ability to have 320 points across the screen we can make use of this technique also. We will get different colors on a GRAPHICS 8 screen depending on whether we illuminate even, odd or both even and odd dots across the screen. This is most easily seen if we draw vertical lines on the screen. Let's look at the possibilities with Program 11-7.

```
90 REM * SIMPLE ARTIFACTING
95 GRAPHICS 8:COLOR 1
96 PRINT "ODD EVEN ODD AND EVEN"
100 FOR I=1 TO 50 STEP 2
110 PLOT I,1:DRAWTO I,150
120 NEXT I
130 FOR I=60 TO 110 STEP 2
140 PLOT I,1:DRAWTO I,150
150 NEXT I
160 FOR I=120 TO 170
170 PLOT I,1:DRAWTO I,150
180 NEXT I
```

PROGRAM 11-7. GRAPHICS 8 artifacting.

All we have done is to first write only in odd positions, then even positions, and then even and odd positions. The result is three different colors on the screen.

This can also be seen if we draw diagonal lines down the screen, where the bottom of the line is only slightly displaced from the top. The limited resolution of the display means that the line will "jog" as it goes down the screen. In the process, it will alternate colors as it moves from odd to even column. How often the color change occurs will depend on the amount that the bottom of the line is displaced from the top.

```
90 REM * ARTIFACTING WITH DIAGONAL LINES
100 GRAPHICS 8:COLOR 1
110 FOR I=0 TO 50 STEP 2
120 PLOT I,1
130 DRAWTO I+1,150
140 NEXT I
150 FOR I=60 TO 110 STEP 2
160 PLOT I,1
170 DRAWTO I+2,150
180 NEXT I
190 FOR I=120 TO 170 STEP 2
200 PLOT I,1
210 DRAWTO I+3,150
220 NEXT I
230 FOR I=180 TO 230 STEP 2
240 PLOT I,1
250 DRAWTO I+4,150
260 NEXT I
270 FOR I=240 TO 290 STEP 2
280 PLOT I,1
290 DRAWTO I+5,150
300 NEXT I
```

PROGRAM 11-8. Artifacting with diagonals.

Let's look at one more manifestation of this effect, called a moire pattern. By varying the angle that we draw diagonals it is possible to produce some striking and colorful patterns on a GRAPHICS 8 screen. Here is just one example of the effects that can be generated.

```
90 REM * GRAPHICS 8 MOIRE PATTERN
100 GRAPHICS 8+16
110 FOR I=0 TO 319 STEP 4
120 PLOT 0,0
130 DRAWTO I,159
140 NEXT I
150 FOR I=319 TO 0 STEP -4
160 PLOT 319,0
170 DRAWTO I,159
180 NEXT I
190 FOR I=0 TO 159 STEP 4
200 PLOT 159,0
210 DRAWTO I,I/2
220 NEXT I
230 FOR I=319 TO 159 STEP -4
240 PLOT 159,0
250 DRAWTO I,(319-I)/2
260 NEXT I
270 GOTO 270
```

PROGRAM 11-9. A moire pattern.

You can produce many dazzling, high resolution displays by starting the drawing from different places on the screen and drawing over existing patterns with new ones.

Next month we'll look at a selection of unusual capabilities and hints that can be valuable to Atari BASIC programmers. Until then.....

JACG



Art's Arcade
By Arthur Leyenberger - JACB

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It was the wee hours of the morning and I had been at it for hours. I just couldn't stop. Every time I was ready to cash in my chips for a few microseconds of sleep, I would say to myself, "Ah, just one more. It'll only take a couple of minutes." The cats had long since retreated to some warm corner of the house and were by then dreaming of delicious mice. It was definitely time for a break. So I put the word processing program away, filed all of the unfinished literary masterpieces, and decided to play a game for a while to relax. Little did I know that choosing which game to play would be no simple task and result in this month's column.

Many new games have come out for the ATARI computer and I have not kept up with them. I had to choose from both old and new based upon the artwork and description on the packaging, the instructions provided with the game, and the venerable "Leyenberger's Quickie Test" method of game evaluation. The "Quickie Test" is simply this: I boot up the game and if I can't figure out how it works in 5 minutes it fails and will never again see the likes of my computer.

Shamus: Case II

Written by William Mataga, Case II is a sequel to the very popular Shamus. You will recall that Shamus is a combination of an arcade shoot-'em-up and a puzzle type adventure game. The object of the game was to reach the heart of the Shadow's lair and destroy him. I am happy to report that Case II follows in the same tradition. It is not just a thinly disguised variation on the original theme. Shamus: Case II has the same clever design and hectic pace of its namesake in a completely new setting.

You begin your trek in the "pit room", so called because of the many spiked pits that may easily become your undoing. There are ladders, blind alleys and snake patrolled passageways that must be navigated in order to proceed through the maze. Many enemies must either be destroyed or avoided. These include all sorts of aquatic life such as fiendish fish, cantankerous clams and mutant mollusks. If you pause for even a moment, the Shadow may swoop down and put an end to you. A quick blast from your plasmar detonator will stun him briefly, at least for enough time to flee.

Other perils also await you. Slider-rung ladders which occasionally lose their rungs at the most inappropriate time may cost you your life. And each attacking mutant life form that gets past you will cause a piece of the floor to be vaporized. When all sections of the

floor are destroyed you drop through to the chamber below. This is not necessarily the last room you were in.

Shamus: Case II is really more of a shoot-'em-up than an adventure game. The addition of the multiple rooms and levels does add to the overall effect though, making it more than just another twitch game. The sound and graphics are appealing making this a worthwhile addition to your game library.

Jumbo Jet Pilot

I originally thought that Jumbo Jet was a Jumbo Dog. It had slow response, minimal graphics and took a good hour to complete. After several long flights in the right hand seat of the Jumbo, I realized that flying a real 747 was probably very similar. Not much action, a lengthy flight and a great deal of concentration was required. Jumbo Jet now gets occasional gameplay on my machine.

Your flight plan in Jumbo Jet Pilot is to taxi out to the runway, take off, fly to a destination airport and land a Boeing 747 commercial jet. The flight begins with the aircraft ready for taxiing and YOU at the controls. You must steer the big jet away from the terminal and head towards the appropriate runway, which is actually two big left turns away. The edges of the taxiing area and a center line are always visible to help you stay on the pavement. As the plane picks up speed you notice the air speed indicator increasing. Unfortunately the indicated taxiing speed is not very realistic since it can increase to over 300 kilometers per hour. Even at this amazing speed it still takes approximately 12 minutes to reach the runway.

Once there, increase the throttle setting to maximum and set the elevators to just below the central position. Release the brakes and keep the aircraft centered on the runway. At a speed of 360 kilometers per hour you pull back on the joystick and the plane begins to climb. Not too steeply now, otherwise you will stall and crash. The landing gear is raised as soon as the ground is cleared to improve the flight characteristics of the jet.

In the air, you will be navigating by referring to the heading indicator and the map. A detailed enlargement of the map can be called up at any time to see how far off course you really are. Instrumentation is quite good and includes: fuel indicator, artificial horizon, vertical speed indicator (for rate of climb or descent), elevator position (pitch), roll angle, heading, airspeed indicator and altimeter. Other controls include brakes, flaps, lights, throttle, ailerons, landing gear and map.

In general, this is a realistic simulation of a jumbo jet. The response to the controls however is a little sluggish. Never having flown a real 747, I don't know if this is

GIVE A BIT!!! GIVE A BIT!!! GIVE A BIT!!!

representative of the real plane or just the simulation. One thing is certain: just as in a real plane, constant attention is required at all times in order to have a safe and enjoyable flight. Jumbo Jet requires 16K RAM and is both fun and useful for learning how to fly "the big rigs".

Hellcat Ace

Written in BASIC, you would think that the action in Hellcat Ace would be slow and the playability compromised. Well it definitely is not. Although the graphics could be of a little higher quality, this air-combat simulator holds your interest well and provides plenty of different challenges.

There are 15 different scenarios each with four difficulty levels. In addition, the budding "ace" can choose to battle one or two enemy aircraft. Two joysticks are used to fly your fighter. Joystick 1 is used for maneuvering. Turns, banks, even rolls and flying upside down are possible. Pulling back on the stick causes the plane to climb and pushing forward causes the plane to dive. Joystick 2 controls the engine power (throttle) and is used for bailing out when a crash is imminent.

The simulation begins by choosing one of the scenarios from a menu. Choices include Wake Island, Midway, Leyte Gulf and other Pacific theatre options. Next, you choose whether you want to fight one or two enemy planes and then are given a brief description of your mission. The realism of the plane movement is good. As you bank left or right, the horizon tilts in the opposite direction just as it would in a real plane.

The fire button of joystick 1 is used to fire short bursts of machine gun fire from your dual wing-mounted guns. You see tracer bullets (a nice touch) which help in learning how to aim successfully. Through your gunsight you can see the effects of plane velocity and gravity on your aim. Multiple hits are required to destroy the enemy airplanes which can prove to be rather difficult at times. After shooting down five enemy aircraft you receive a fanfare, "Ace" status and a rating from rookie to pilot class 1. Enemy aircraft may attack from the front, side or the rear. A particularly realistic effect is that the Japanese planes sometimes attack from directly out of the sun. In this case, it is often too late to escape. Therefore, the best response may be to bail out. If you do, your plane explodes and you see a screen telling you "Better luck next time".

This simulation is well done. Just think what it would be like if it was written entirely in machine language.

Boulder Dash

If the amount of airplay a particular game gets on my computer is any indication of the quality of the game, then Boulder Dash from First Star Software is one of the best games I have played in months. I hereby state that this syllogism is true! Boulder Dash has taken over my life.

The hero of Boulder Dash is Rockford, a charming little guy who blinks at you and taps his foot impatiently if you take too long to move. With your help, Rockford has the power to dig through the Earth and collect jewels. The goal of the game is to search throughout the numerous caves and collect as many jewels in as short a time as possible. Once you collect the indicated amount of jewels for each cave, the mystery door is revealed which if entered, leads to the next screen.

The game's title comes from the fact that as you maneuver Rockford through the caves, boulders drop when the earth beneath them is dug out. If a boulder happens to make contact with Rock's noodle, you must begin that cave again. Rockford also buys the farm if a jewel lands on top of him.

The boulders and their movements are one of the best aspects of the game. Peter Liepa did a good programming job in the way the boulders teter before they fall and how the force of gravity acts on them. The boulders will also topple off of underlying objects if there is nothing to block their way. Learning the "physics" of Boulder Dash is a clever sub-game within the overall game.

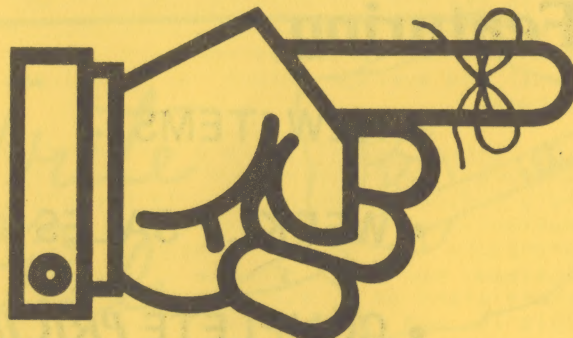
At the lower levels of the game, the jewels are scattered throughout the cave. It is fairly easy to tunnel around the cave and pick them up. At higher levels, there are not enough existing jewels for you to collect and escape that level. Therefore, you must create jewels in a variety of ways, including dropping boulders through an enchanted wall or suffocating Amoebas.

Lest you think that the game is easy to play, there are a variety of hazards, pitfalls and "bad guys" that make game play interesting. Fireflies are the deadliest of enemies. They glide about the tunnels moving along the edges of the exposed areas. The slightest contact with one will cause Rockford to explode into a million pieces. Of course you can always drop a boulder on the fireflies to eliminate their threat until the next scene. Butterflies are also deadly to the touch. However, when they are smashed with a boulder they turn into jewels.

What can I say? I love this game! I have spent dozens of hours playing it and will continue to do so. Boulder Dash is definitely a candidate for best game of 1984.

Next Month: Report on all of the new games announced at CES in Chicago. See you then.

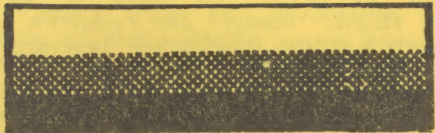
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TIDBITS

News and Views By
Arthur Leyenberger
Editor-at-Large, JACG Newsletter

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Reading the popular and trade computer press you get the impression that the high prices of software are a direct result of software pirating. For those of you who are unaware of the extent of the problem, it has been estimated that for every legitimate copy of a program there are approximately 25 unlawful copies of the same program. If you do the math you will discover that adds up to millions of dollars worth of lost revenue to the software manufacturers.

On the other hand, I have talked to software pirates who maintain that the reason they steal the software (and steal is the correct verb to use) is because it costs too much to buy it in the first place. When I ask them how much they are willing on the average to spend for a piece of software, they typically reply about \$20. I am not going to debate this classic "chicken and egg" problem here. Rather, I am going to use a hypothetical game as an example of the pricing of a piece of software and raise questions that may be food for thought.

First, the media costs about \$2, whether it is tape or disk. A fancy four-color manual will run about \$3 as will the packaging including the artwork. So far, we have 2+3+3, or \$8.00. The company selling the program is going to want to make a profit so they will probably add a 100% markup. This also covers the cost of royalties to the author. Now our game is up to \$16 even before it leaves the factory. When the distributor gets it, they will want their cut as well. Once again the markup is added, about 50%, and the cost increases to \$24. Understandably, your friendly neighborhood dealer wants to make a profit too, so he adds 8 or 10 dollars. When you finally buy the game it costs \$34.95. The numbers I used in this example are approximate but I think you can see how quickly the costs mount up.

Some of these costs are fixed like the media and the packaging. But something like the manufacturers' profit can be adjusted at whatever level is desired. Here is where the company's strategy can make or break the sale of the particular product and perhaps, even the company itself. If they expect high sales, they could easily make a little less on each piece and a fortune with the volume. However, if low to medium sales are expected, a higher price might be charged in order to allow them to recoup their expenses.

You can probably guess that pirating software programs throws a monkey wrench into the profitability of a particular game. The price is based upon a certain level of sales and if the sales fall short, the product is not profitable and the company will likely set a higher price on its product next time.

The whole question of software piracy is a complex topic. There are no easy solutions except perhaps the cooperation between

manufacturer and user. Manufacturers need to do more than just continually try to come up with a better protection scheme for each new product. A better alternative would be to use the same money that would normally go towards "protection" and establish a cooperative of software manufacturers. Then, put serial numbers on each disk, register the legitimate owners of the software and prosecute people who steal and/or distribute the products illegally. One more thing needs to be done. The manufacturers must also publicize their efforts. Set a few examples. Only then will the tide be turned. These last few ideas have been proposed by Jerry White and I fully agree with them. The problem is to get the manufacturers to cooperate.

I have a few additional thoughts that I would like to share with you. Many of the people who receive pirated software would not have bought the software in the first place, regardless of the price. They have the baseball card collection mentality - be the first on your block to collect the entire set. In fact, many of them probably do not even use the software.

The analogy between software and books has often been used. You can buy a paperback novel for \$5 or a hardcover for three times that price. Then, if you copied every page of that book (make a pirate copy) it will cost you more than the book itself. With software, a copy or exact clone of a game can be had for the price of a blank disk or about \$2. The media is cheaper than the original.

I presented this discussion to get you thinking. What do you think? In a future column we can share some of your thoughts. Better yet, let us have an open forum. I welcome comments from software manufacturers, distributors, retailers and users.

Atari Announces the 7800 Video Game

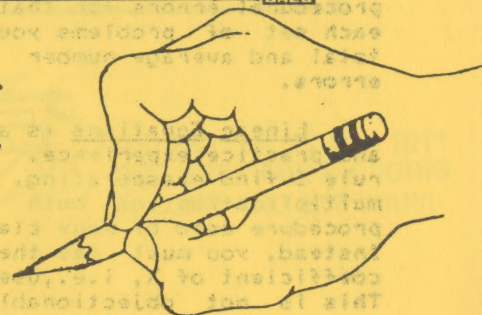
Atari recently announced a new video game machine called the 7800 ProSystem. It uses a new graphics chip, has redesigned controllers and can play 2600 game cartridges. Price is \$150 for the player which comes with Pole Position II.

For a full description of this game machine and how it relates to Atari's future and the Atari computer user, see the July issue of A.N.A.L.O.G. Magazine.

That's it for this month. Catch you next time when I will have some thoughts (and facts) from the Summer Consumer Electronics Show in Chicago.

JACG

Write
an
article



The Report Card

by Frank Pazel - JACG

"I pay attention in class; I just can't do math." Have those plaintive thoughts come from one of your kids recently? It seems to strike about the time algebra comes along in their lives and especially when they have to do battle with simplifying and solving linear equations. Have I got a program for you.

CBS Software has produced two math tutorials; "Success With Math - Linear Equations" and "Success With Math - Quadratic Equations." They are both excellent, easy to use, and just might help that confused and frustrated teenager over the rough spots. Linear Equations has the usual "type in your first name" but uses it judiciously throughout the prompts. A small point. When you type in your name it is in lower case but throughout the program is printed with the first letter in caps. For a non-computer type this could be confusing. I thought, "Oh, oh. Already sloppy programming.", although this is the only structural flaw I found.

The program gives repeated drill and practice on solving equations in the form $AX+B=C$. The instructions are an option right at the beginning and walk you through a very complete sample solution page by page. If you want to review something on a previous page you press B to back up as far as you want.

The menu of rules are simple, complete, and unbending. To work through a problem you can:

- 1) Add same term to both sides.
- 2) Subtract same term from both sides.
- 3) Multiply both sides by same term.
- 4) Divide both sides by same term.
- 5) Simplify both sides.

To begin the drill you select how many problems you want. If you pick more than 100 a prompt asks you if you really want that many. As you work through the problem prompts tell you what to do next and even give you hints or instructions. If you pick the absolutely wrong rule you are instructed what to do; "To undo multiplication, use Rule 3 or 4." If you make an error in logic an explanation of what you should have done appears. Once you successfully complete a problem you are given the total number of computational and procedural errors for that problem. After each set of problems you are given the total and average number of both types of errors.

Linear Equations is a very good drill and practice experience. It has only one rule I find exasperating. It doesn't allow multiplication of both sides by -1, a procedure used by many classroom teachers. Instead, you must use the inverse of the coefficient of X, i.e., use $-1/4$ times $-4X$. This is not objectionable and poses no

problems once the user acclimates to it. The author looks out for your feelings. At the final summation, even if you didn't too well you get conciliation like, "No one gets everything right.", or "You will be a good math student." Unfortunately, he never says when. Overall, this program, and its cousin, Quadratic Equations, get an A- in my grade book.

JACG

A Kid's Eye View

By P.E. Semel - JACG

Activision Activates Four For Atari

Ever since Activision started making games for the Atari 2600, they have been the leading third party King for that system. Last year, they started marketing games for Matell's Intellivision with much success. They have just begun to market games for Atari computers, and I am just tickled pink. The first of these is the game which made Activision popular, Kaboom.

For those of you who do not know what Kaboom is, I will explain. A mad bomber has escaped from the local prison, and he is now throwing bombs down at the people below. You control the buckets of water which are used to capture the bombs. Starting off with three, you must use either your joystick or paddle to move the buckets under the bombs. If one bomb is missed, all of them explode, and the bottom bucket disappears. The graphics are almost exactly like the original, if not better. One of the differences from the original is that when a bomb is released, a note is played. After the first couple of bomb waves, the bomber speeds up. When he speeds up, the notes get closer together, and eventually wind up playing a famous piece of classical music (can you guess what it is?)

The second game is River Raid. In this game, you are piloting a jet plane down a river. You are confronted with a few adversaries, including: planes, tanks, balloons, fueling stations, boats, helicopters and bridges. These are easily destroyed by your missiles. This game is a lot like the original but the computer version is a lot different. The edges are a lot more jagged, and the enemies move a lot faster. The game has one and two players and a couple of skill levels.

When Activision released Megamania, it was hailed as the best shoot 'em ups for the VCS. The game is your basic shooting game with one difference. You are not shooting spaceships this time, but rather you're shooting things that are found right here on earth. Tires, dice, hamburgers, bow ties, and more, make up the menagerie of bad guys trying to get you. The playability of the game is the same as the VCS version. The big difference is that the characters are 200% better. The hamburgers look like Big Macs instead of plain old hamburgers. You can play by yourself, or with a friend and with or without guided missiles.

The last of Activision's games for our home arcades is the ever popular, Pitfall. If you like the original, you will love the computer version. The game play is the same but the characters are more detailed. The sounds are also much more rich. All of the games are well worth the \$34.95 that you have to pay. If you love any of these games for the 2600, you will never put them down.

JACG

**HAVE YOU RENEWED
YOUR MEMBERSHIP?**

**CHECK YOUR MAILING LABEL
FOR MEMBERSHIP EXPIRATION DATE**

WHO NEEDS A COMPUTER?

by Bob Reeves - JACB

Should I buy a computer? For those of you who want the conclusion up front, YES.

I'm writing this because I asked myself this question several times before buying one, and several times again in hindsight. You have probably answered this question affirmatively already, but to the minority who haven't, here's what happened to me.

About three years ago, I had finished all my projects around the house, it was the middle of January, and I really needed something to occupy myself. I had been feeling a little threatened by computers/computer jocks at my job, and was toying with the idea of picking up a computer for home to initiate myself.

I spent a short period of time seeking out the advice of my colleagues at work, most of whom advised me that the Apple was the only logical choice for anyone who was serious about computers, so I bought an Atari. It wasn't that I wasn't serious about computers. I didn't trust my colleagues.

Seriously, I contemplated what I might do with this beast on a day to day basis in my home. My goal was to get comfortable with computers and learn Basic programming, but I also wanted to be entertained on occasion. I had purchased the Intellivision about a year before, and thus had some exposure to the excitement of video games in your own living room.

When all the components arrived in a cardboard box from 47th Street Photo in New York, I just couldn't wait to get started. I had priced the 800 at several stores, and 47th Street was the best price in town. \$699 for an 800 with 16K memory. I also sprung for a 410 recorder and about \$200 worth of software. The most valuable software turned out to be a programming course by Atari, which consisted of three cassettes and a couple of manuals. I spent the next couple of weeks going through the courses, and continued to do so until I could answer almost all the questions. These courses are really great for a novice. The cassettes have both an audio track and a digital track, and guide you from lesson to lesson. There are practice sessions at the end of each module, and problems in the text manual.

I began to acquire all the Atari-based magazines that I could get my hands on, and typing in every program available, whether I needed it or not. I learned a lot about error messages and editing 'lockup'. I naturally contacted Dick Kushner to find out about this computer club that would teach me all I ever wanted to know about Atari computers, and began to attend meetings regularly. It really bothered me that the meetings were only once a month. I felt two or three a week would be about right at this point. Obviously, I was hooked.

I purchased a disk drive about four months later, and had to start learning all over again, but it was worth it. Boy was this sucker fast compared to the old 410! I soon felt fairly comfortable with 'basic' Basic programming, and then sort of burned out for several months. I wanted to keep going, but just couldn't figure out what I wanted to do next.

Fortunately, my job offers the opportunity to utilize computers on a day to day basis, and I soon started to incorporate a computer in some of my laboratory experiments. This was the turning point for me. I began to run instruments to take data, and output the data to a vector plotter from the

computer. Raw data to publication quality plots in one step. This was great! Running other gadgets from a computer is what really turns me on, and I soon discovered that the Atari I had at home could do most of the things that the Hewlett Packard I had at work could do, although maybe not quite as fast.

About a year after the computer, I decided, and I still don't know why, that I needed a modem, and I was soon off and running with telecommunications. I was calling Atari bulletin boards all over the country, and my phone bill skyrocketed, but it was worth it. I was filling up disks with public domain software, and a lot of it was every bit as good as the commercial stuff. Public domain software or not, these boards are a lot of fun. You can get hot tips and info that can't be found anywhere else.

It wasn't long before I was talking to computers at work over the phone with my Atari, and learning quite a bit without even trying.

Today, the Atari is as much a part of my household as is our washing machine. My wife keeps all her coupon and trading records on disk, and updates them regularly for her monthly coupon meetings. My 4 year old can't play enough games (we try to keep at least some of them educational), and I sit down and tinker when it's available. We will probably have a second system in our home within a year or two.

For me, this computer is one of the best investments I have made. Entertainment, education, utility, all in one. Would I recommend Atari? Of course! If I had started with Apple, IBM, Commodore, or whatever, I would probably also recommend them. I guess the advantage to owning an Atari is getting together with the four or five hundred other Atari enthusiasts that I see once a month. See you at the next meeting.

JACB

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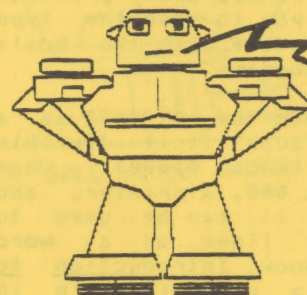
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**YOU BETTER 'GIVE A BIT'
THIS MONTH OR I'M GOING
TO COME AND GET YOU!!!**

Demonstrations Highlight May 12th Meeting

by Robert W. Courtney - JACG

There was a marked departure from the regular meeting format at the May 12th meeting of the JACG. Six small groups met within the auditorium and two more met in the lobby to give small group demonstrations to the members. After each ten minute presentation participants rotated to another section so everyone got to see every demonstration. The audience got to see:

DON FORBES demonstrated his \$5.00 FORTH disk whose menu gave a total of 170 different screen displays. Along with the FORTH textbook by Brodie at \$17.00, you can have the wherewithal of adding large stacks of numbers very easily.

CHUCK LICHTENWALNER demonstrated the Tech-Sketch Light Pen that works with the Atari 400, 800, or 1200 computers. Youngsters like it for drawing simple pictures and because there are math programs that allow users to point with the pen to the correct multiple choice answer, with a cartoon commendation that differs with each correct answer. It can also be used to play "Concentration", with two players competing to match up pairs of like designs.

SCOTT BRAUSE described JACG's Bulletin Board, where members with modems can call in for up to 45 minutes to see what announcements are posted of interest to members or to leave messages for other members. Messages can be private also; Scott suggests using innovative passwords to preserve secrecy. The best time to get on the Bulletin Board, (201) 549-7591, is during daytime hours. Things start to get busy after 6 p.m.

JERRY FRESE demonstrated two items. Font editing is a method whereby one can design a fancy letter "A" in large scale, for example, and then make use of it in regular size lettering whenever the letter "A" is typed. He says you need an Atari 800 with 48K for this operation and that it ought to work with nearly any printer that can handle graphics. He also showed "Humpty-Dump" by Kidstuff Software. At under \$50.00 it can take drawings from a screen display and transfer it to a disk or printer. If desired, the size of the screen display can be varied when printed. This software enables you to save the type of art work you can produce with the Koala Pad or Micropainter programs.

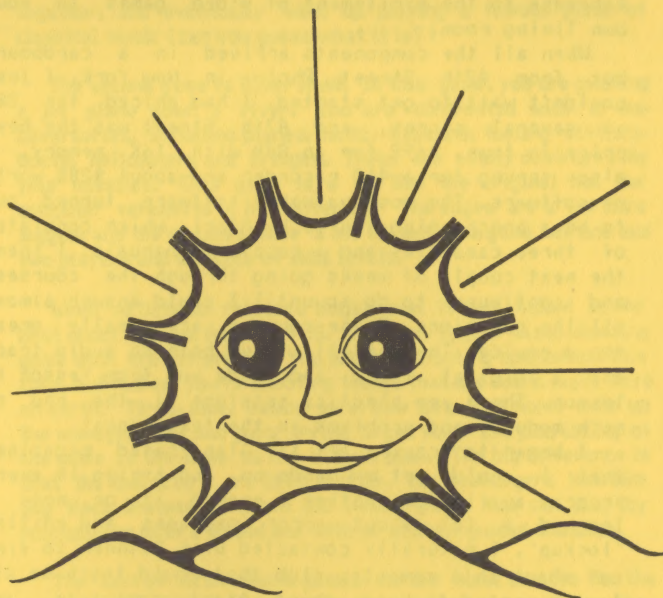
BOB ZORNETZER described the ATR8000 as a "hacker's machine" because it is flexible and relatively cheap (under \$1000). When operated with an Atari 800, a printer, and a double disk drive, it can be used to produce 80 character lines as a word processor. The textbook, Introduction to Word Star, would be a valuable help in getting this program going.

NICK SCALERA showed the three year old VisiCalc program. More sophisticated than many spread sheet programs, the tutorials might take two or three days to master. The software runs about \$200. If you have many columns of figures and many rows of data, VisiCalc may be the answer to your problems, since changing a figure anywhere in the spreadsheet can be made to affect all of the related sub-totals and totals throughout the sheet. The program stores much more in the memory than can possibly be displayed on the screen, so don't expect to see it all at once as on a 30 column accounting analysis pad!

GEORGE SCHENCK showed the creative capabilities of the Koala Pad which frees you from the keyboard by having a stylus make designs on a 4" x 5" writing plate that electronically transfers the impressions to the monitor screen. Would-be artists have their choice of colors, width of brushes, and shapes in designing works of art.

JERRY BANKS showed his 540 line program which presented spirals, stars, and parabolas on the monitor screen. While not yet on a disk format, those interested in the program can contact Jerry for further details.

JACG



JUNE SUNSHINE

Logo Art by
Frank Pazel/JACG



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DIMENSION X Star Raiders Plus

By Bob Reeves - JACG

Have you been waiting the best part of your life for another game as good as Star Raiders? Well, wait no more. Synapse has done it with Dimension X.

This game is every bit as complex and challenging as the old standby. As if that weren't enough, just wait until you see the graphics. If this isn't the best game to come out for the Atari in a long while, it sure beats whatever is in second place.

Boot up and you are presented with an impressive 3D playfield, desert map, a radar screen, and a message window to inform you of vital enemy status. Locate the enemy via the desert map, point your ship in the appropriate direction, and get ready for the flight of your life. After warping to the edge of the sector, you will enter a tunnel which leads you, if you are steady at the controls, to the selected sector. You must now seek out and destroy enemy ships, with the aid of your range indicator, radar screen, and inherent desire to preserve what is good and destroy what is evil! It will probably take you a while just to learn to maneuver through the tunnel, as avoiding the deadly laser gates is no trivial matter. I can only advise practice, lots of practice. I read and reread the documentation, looking for helpful hints on how to safely fly through the tunnels, but Synapse left me pretty much on my own. After several evenings, I can assure you that you can get through. Do not expect high scores the first time you play this game. Believe me, patience and practice will be worth the effort.

Let's go through a typical scenario. First, I must select the level I wish to play. For me, NO PROBLEM. Pilot Skill: Novice. Shield Strength: Strong. Aliens Per Sector: Few. You'd think with these choices than I could go have a cup of coffee and come back and see how many million points I had scored, right? WRONG! I glance at the desert map, move my joystick so that a sector indicating enemy presence is my target sector, then, gritting my teeth, push forward on my joystick. My view from the cockpit indicates rapidly increasing speed, and, if I have the nerve, I soon enter an automatic WARP drive which propels me toward the entrance of a tunnel in the side of a mountain. You must experience this 3D effect yourself. It is difficult to describe the realism.

O.K. I made it, and I'm in the tunnel. Now just sit back and wait for the enemy to fly into my gunsights, right?..... WRONG AGAIN. The evil forces have placed laser gates which appear 'randomly' just in my flight path. Split-second

decisions are necessary to avoid them, and my 'maturity' seems to aid the enemy at every gate. Finally, I arrive at the threatened sector, with what sounds like a nuclear alert blurting from my ship's audio system. I glance at my Quadra scan, and notice a bleep at 270 degrees. Pushing my joystick to the upper left, I seek and (hopefully) destroy!. These guys are pretty good shots, though, and after a few hits, I must refer to the desert map, if I still have one, and work my way back to a fueling station (F) for repairs. If I don't have my map, I had better have paid close attention to the brief instructions supplied by Synapse, which will tell me how to maneuver back to a fuel station with no map.

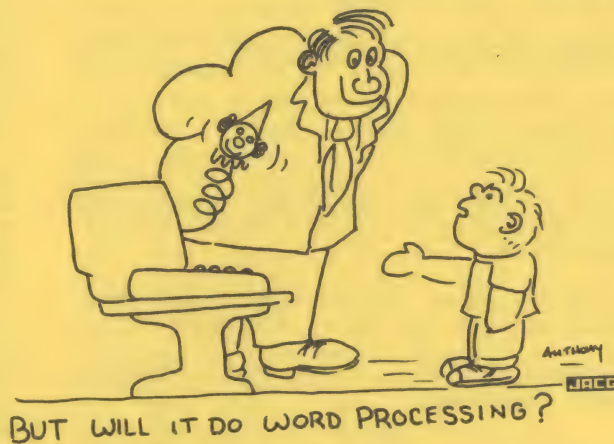
If I'm lucky, 15 or 20 minutes later, I have survived, and have the opportunity to risk my life all over again.

If you liked Star Raiders, you must have this game. I can't say enough about it.

On the negative side, the only thing I would like to see is a little more reward for completing a level. I really felt like \$100 bills should have come spewing out of my joystick the first time I survived!

JACG

GOOD BUDDIES COMPUTER MART



RAM SuperCartridge

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In a previous article I discussed the theory behind the operation of a supercartridge. In this article I will put this theory to use. A detailed explanation will be given for the construction of a RAM based supercartridge.

You may be wondering of what practical use a RAM supercartridge would be. Well, since blank supercartridge boards are now available commercially, the RAM version of supercartridge (ram-supercart) is the ideal piece of hardware to enable one to write software that will be supercartridge based. Without it, the program development would involve a much repeated process of burning and erasing EPROMs. With the ram-supercart resident in the computer, unfinished versions of the software can be tested in RAM, with only the final version of the program being committed to ROM.

Another use of the ram-supercart would be to make personally modified versions of existing products. For example, if you wanted to customize BASIC XL, the original version could be placed on diskette, your modifications could be made to the file and then loaded and tested in your ram-supercart. Again, after making all changes, the modified program could be burned in ROM or else run from the ram-supercart.

This modification will use a blank supercartridge board as the starting point of the project. It is available from CIR-KIT Mart, P.O. Box 67, Folsom, CA 95630, 916-933-3595. Price is \$16.00 plus \$1.50 shipping as of this writing. What you get is a complete cartridge board including case and all components except for the EPROMs which can be mounted on the sockets soldered on the board.

The following procedure can be used to modify the supercartridge board to accept 8K by 8 Static RAM devices:

- 1.) Unsolder and temporarily remove the two 28 pin sockets. At times it is impossible to remove these sockets in one piece. If this is true in your case, you must obtain two new 28 pin sockets.
- 2.) On the component side of the board, cut the trace between pins 27 and 28 on each of the ROM sockets.
- 3.) On the foil side of the board, cut the trace that goes to pin 27 of ROM socket A.
- 4.) Reinstall the two ROM sockets previously removed.
- 5.) Bend pins 7 and 14 of a 74LS00 around 180 degrees. Bend the remaining leads out to a horizontal position. Now solder pins 7 and 14 of this IC to pins 7 and 14 of the 74LS02 on the foil side of the board.

6.) Connect the end of the trace that was cut off pin 27 of the ROM socket in the above step to pin 14 of the 74LS00.

7.) Wire pin R (R/W*) of the cartridge edge connector to pin 27 of both 28 pin sockets.

8.) Connect pin 27 of one of the 28 pin sockets to pins 1 and 2 of the NEW 74LS00.

9.) Connect pins 3 and 4 of the NEW 74LS00.

10.) Connect pin 26 of both 28 pin sockets together.

11.) Connect pin 26 of either one of the 28 pin sockets to pin 7 of the NEW 74LS00.

12.) Connect one end of a 1K, 1/4 watt resistor to pin 5 of the NEW 74LS00.

13.) Connect the other end of this resistor to pin 7 of the ORIGINAL 74LS00.

11.) Mount a very small SPST switch on the cartridge case so that when the cartridge is inserted in the computer, the switch exits the front, top, right side of the case. You may have to cut the lever of the switch so that it doesn't hit a cartridge that may be in the right slot. Also, make sure that the circuit board will fit freely in the cartridge case without touching the switch.

12.) Wire one side of the switch to pin 5 of the 74LS00.

13.) Wire the other side of the switch to pin 16 of the 74LS175.

14.) Insert RAM in the 28 pin sockets. The RAM can be Toshiba 5565 or Hitachi 6264. Good luck in finding the RAM for less than \$35 per chip.

15.) When the switch is closed, the write protect is turned on.

OPERATION

1.) First copy your original cartridge to disk by using the program SUPRCART 1.0 by Ken Roser, which will be available from the JACG software library. This will read all banks of the supercartridge and place them into a specially formatted file that can be used with the RAM Supercart.

2.) To run a program using the RAM Supercart, insert the RAM cartridge into the computer and boot DOS. Use command 'L' to load the file created in the previous step.

3.) Before hitting return, as will be prompted after executing step 2, turn on the write protect switch.

4.) As of this time, this RAM based cartridge will not work in the XL series of computers. Until I can obtain a set of schematic diagrams for these computers the reason for this incompatibility will remain a mystery to me.

For those of you that will be creating your own supercart based software, be sure to format your load file so that the proper banks will be selected during the load. Details of how to do so was described in my previously published article on supercartridge theory.

JACG

ATSPELLER UPDATE (or Caveat Emptor Atariensis)

by Richard S. Semel-JACG

Son: "How do you spell (pick a word)?"

Father: "Look it up in the dictionary!"

Son: "How can I look it up if I don't know how to spell it?"

In February, after about 500,000 repetitions of this dialog - I have two sons - I bought Atspeller to use with the AtariWriter I bought last summer. I had read about the program in the APX catalog and found it at a local dealer. He stocks a great many of the APX releases and uses the catalog to determine what is currently available.

To use Atspeller you must first save the completed document, then remove the AtariWriter cartridge, load the Atspeller program, load the dictionary - which is on a separate disk - and then reload the document to be checked. While checking, it may be necessary to swap back and forth between the dictionary disk and the document disk several times. For example, it required four such swaps to check this article, which contains fewer than 1000 words. This may be cumbersome and time-consuming, but the spelling checker certainly does what it is supposed to do. As the document scrolls by, misspelled words, typographical errors, and unusual words and names are highlighted in inverse video and scrolling stops. The user can correct an obvious error, check the dictionary for the correct spelling and then make a correction, or leave the word as is. The scrolling is slow enough to permit proofreading, although the only changes that can be made are those to the highlighted words. Output to the screen or to a printer without correction is also allowed.

The program can also be used purely as a dictionary. In this mode it will put on the screen all the words on the dictionary disk starting with the two or more letters the user types in. The user can also create a file of special words not found among the 30,750 in the basic dictionary. In my case, in addition to using the program myself, I am overjoyed to have an answer to my sons' constant question. The \$40 I paid was a good investment and I can recommend Atspeller highly, despite what happened a few weeks after I bought the program.

When I read the manual - which is excellent - I wondered about the scant reference to AtariWriter, but assumed that was an oversight. Imagine my surprise when I read the Letters column of the Spring 1984 Atari Connection and discovered that months before I purchased Atspeller, APX had released a new version - "Atspeller for AtariWriter" - which is compatible with that word processor! It is loaded into the computer with the AtariWriter cartridge installed and is immediately available. It is no longer necessary to save a newly-created document before using the spelling checker and the user can easily switch between the two programs through the AtariWriter menu. In exchange for ease of use, however, you lose almost half of the free RAM available for text files when using AtariWriter. This may be a serious deficiency. With the disk drive operating and the printer driver on the AtariWriter disk, my 48K 800 has about 14K of free Ram available for text files at the start of a session. According to the author, with the new program I would have only 8K. This short article takes up about 5.4K. While the CHAIN command does allow you to write files larger than available memory, chaining files may be more of an annoyance than the set-up procedure necessary with the original version of Atspeller.

Since both the dealer and I had relied upon the latest APX catalog, we had no way of knowing about the newer program. Except for the information in Atari Connection, details about it were a secret since APX publications never mentioned it and there was no way to get information about the program from Atari. I feel Atari played dirty pool in keeping the new version a secret, especially in view of its heavy advertising of AtariWriter. The corporation did not seem to agree.

In the column, readers were advised that APX would be happy to trade the old program for the new one for an additional \$19.98! The APX Product Review Manager quoted in the column gave no explanation for the failure to publicize the availability of the new version. No consideration was given to those of us who had owned Atspeller only a few weeks.

I tried repeatedly to contact someone at Atari, but was unsuccessful. APX's 800 number has been disconnected. I finally got through on the Customer Service 800 number, but the representatives were unable to help at all. They had no idea what had happened to APX or to the man mentioned in the column. Dick Kushener and Art Leyenberger seemed to know more about what is happening on the west coast than the people who work there. I began to think that Customer Service had been moved to Hong Kong along with some of the computer assembly work.

Continued on Page 17

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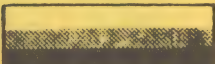


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WHAT DOES FORTH DO?

by Donald Forbes - JACG

A good question: What does Forth do? Before answering, how about another question: What does an automobile do?

"The way to describe an automobile is first by thinking about what it is for, about its function, and note the list of items that make up its structure," according to Harry Katzan in Systems Design and Documentation. "If you think about its function (what it is for) you won't describe it by talking about its four wheels, its engine, size, and so on. You will think about it as a means of transporting a few people from one place to another at a certain cost."

What Forth does is to give you a transportable low-cost means of interacting directly with a computer along the lines that you choose.

Another way to put the same idea is in terms of the benefits of Forth:

1. Forth is transportable across computers.
2. Forth is inexpensive.
3. Forth is interactive.
4. Forth gives the programmer unlimited freedom.

Stressing the benefits of Forth sounds like a salesman's pitch. Everybody is tired of being manipulated. The only way to defeat the manipulators is to be more devious than they are. Since 1513 honest men and women have been reading Niccolo Machiavelli's handbook "The Prince" so that they will not be trapped by the wiles of the politicians. Since 1936 Dale Carnegie's "How to Win Friends and Influence People" has been reprinted yearly for readers seeking to anticipate the guile of salesman types who invariably greet them by name and pose as good listeners, often as not in Brooks Brothers suits with two buttons on the sleeve.

It turns out, however, that Forth is easier to describe in terms of its benefits rather than its features. The benefits can be listed in a few sentences whereas the features require a long book.

The first benefit is that Forth is transportable across almost all the micros, because Forth converts the micro into a virtual Forth stack computer using a few hooks into the hardware. It is relatively easy to convert one computer into another. You can convert your Atari into a miniature programmable computer (with its own assembler language) using the BASIC program written by Robert Pickett in the July 1980 issue of BYTE. Simulated Computer II written in ValForth by Jim Wieder and Scott Steketee will put a miniature programmable computer on your Atari screen, complete with its own assembler language and turtle graphics capability. Forth uses the same techniques to turn your computer (Atari, Apple, Commodore, TRS-80 or IBM PC) into a Forth clone.

The advantage of transportability means that one no longer has to relearn the operating system, the assembler language and the programming language when moving from one machine to another.

Benefit number two appeals to all Scotsmen. They take pride in two things: (1) the first man mentioned in the Bible was a Scotsman and (2) their parsimony--the only way to survive in a hostile environment. To get started in Forth you need only \$10 for the two JACG disks (or even \$5 for disk # 19) and \$17 for Leo Brodie's tutorial "Starting Forth." BASIC and Assembler each call for a cartridge. COBOL, FORTRAN, PL/I, LISP, and APL are unavailable. Pascal takes two disk drives. (The famous Scotsman, of course, was King James the First.)

The third benefit is instant response. If you ever aspired to be an athlete or a painter or an actor or a musician you know what I mean--you can get lost in the interaction with your environment. Every other computer language erects a barricade between the programmer and the computer. Forth alone encourages a two-way conversation. It is easy to get hooked (Elizabeth Rather of Forth Inc. called it love at first sight), which helps explain why Forthers give the appearance of a one-track mind.

Benefit number four translates to unlimited freedom to create whatever strikes your fancy. You save all your code, and can reuse it as often and any way you wish.

Years ago I thought it would be fun to learn some Russian. The first hurdle, of course, is the fact that they use a different alphabet. If you walk down the streets of Moscow and see a sign ПЕТОПАХ you must remember that the P is an R, the C is an S and the H is an N, so that the sign transliterates to RESTORAN, where they serve beefsteaks. Then I learned that an IBM computer could translate Russian at the rate of 1,000 words a minute, and I lost interest.

One person out of five speaks Chinese, another language that offers numerous challenges. Forth can be used effectively on the Atari to create a drill program for spoken Chinese. The Chinese language consists of a mere 800 or so monosyllables. They expanded this to about 3200 words by pronouncing each monosyllable in one of four tones--a flat tone, a rising tone, a falling tone, and a falling-then-rising tone. The word MAI means buy or sell, depending on the tone; the word MA can mean either horse or mother. In English, the word YES can take on different meanings depending on the inflection--agreement, surprise, or incredulity. What Westerners fail to realize is that you don't SPEAK Chinese--you SING it!

Forth makes it easy to match the word to the proper tone, by combining it with Atari sound. A language translator is simple in Forth. You can translate German like this:

```
: I      ." ICH " ;  
: AM     ." BIN " ;  
: HERE  ." DA  " ;
```

If you type
I AM HERE
you get the translation
ICH BIN DA

Chinese words can be translated in the same fashion. The tones can be represented by DO...LOOPS in Forth.

This screen will set up the tones for you. The first tone is G above middle C on the piano keyboard. The second tone rises from E to G. The third drops from D to C and rises to G. The fourth drops from G to C.

SCR # 1

```
0 ( chinese words 1 - may 1984 )
1  DECIMAL : SS 0 0 0 0 SOUND ;
2  : WA ( wait) 500 0 DO LOOP ;
3  : WW ( wait) 1000 0 DO LOOP ;
4  : 1ST 243 217 DO 0 162 10 8
5  SOUND WW LOOP SS WW ;
6  : 2ND 162 193 DO 0 1 10 8 SOUND
7  WW -1 +LOOP SS WW ;
8  : 3RD 243 217 DO 0 1 10 8 SOUND
9  WW 5 +LOOP 173 243 DO 0 1 10 8
10 SOUND WW -5 +LOOP SS WW ;
11 : 4TH 243 162 DO 0 1 10 8 SOUND
12 WA 2 +LOOP SS WW ;
13 : PEKING ." BEI.JING- "
14 3RD WW 1ST ; : HOTEL
15 ." LU.GUAN. " 3RD 3RD ; -->
```

Note that SS turns off the sound, WA is a short delay, WW a longer delay. The next screen has a short vocabulary. The falling-then-rising third tone has been shown as a . or period.

SCR # 2

```
0 ( chinese words 2 - may 1984 )
1 : IS ." ZAI\ " 4TH ;
2 : WHERE ." NAR. " 3RD ;
3 : CHINESE ." ZHUNG-GUO/ " 1ST
4 2ND ; : YOU ." NI. " 3RD ;
5 : MAN ." NAN/REN/ " 2ND 2ND ;
6 : RESTAURANT ." FAN\GUAR. "
7 4TH 3RD ;
8 : TELEPHONE ." DIAN\HUA\ "
9 4TH 4TH ;
10 : HOW-MUCH ." DUO-SHAO. " 1ST
11 WA 3RD ; : YOU ." NI. " 3RD ;
12 : GOOD ." HAO. " 3RD ;
13 : NOT ." BU\ " 4TH ;
14 : AGAIN ." ZAI\ " 4TH ;
15 : SEE ." JIAN\ " 4TH ;
```

With this vocabulary you can say "hello" (you good not good) or "goodbye" (again see) or ask questions (Chinese restaurant is where) (telephone is how-much) or (hotel is where). For a larger vocabulary, try "Chinese in 10 minutes a day," a ten-dollar or so book from Bilingual Books Inc. of 511 Eastlake Ave. E, Seattle WA 98109.

Unlike Ron and Nancy, you and I do not get a free trip to China and you may never in your life have to ask for a meal in Chinese. All I wanted to do was show you that something as outlandish as learning spoken Chinese can be a fun project in Forth.

**NEXT MONTH!!
YOUR ARTICLE**

**Could Be In This Space
And Beyond.....**

Atspeller - continued from Page 13

I finally decided to write to the author of the program, R. Stanley Kistner, and to the new head of Atari. I asked the former for information and threatened the latter with an expose' in the JACG Newsletter. It worked! Within a week I got a letter from the author and a call from California. I was offered a free swap of the old version for the new, got some names of people to contact, and learned that Atari plans to bring out the new version as The Atari Proofreader, price undetermined.

Anyone with a similar problem can try contacting Mary Lorenzan or Lisa Shauler at the Crossman Avenue address in Sunnyvale.

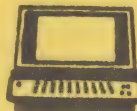
The moral of this tale can only be: "Buyers of Atari products, beware and persevere!"

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"The home computer says we'd be solvent if we hadn't bought it"

San Diego Atari Group Enthusiasts

Logo to EPSON
Screen Dump
by Brian Harvey
Edited by Curtis Springstead

This set of procedures will allow you to print whatever is on the graphics screen with an Epson printer. By setting a "dribble" file to the printer the graphics screen memory locations when read and displayed on the text screen are written to the printer at the same time.

The other procedures merely examine each location in memory where the screen is stored and then convert it to the proper decimal values to be printed. This routine only works with printers with a bit image printing option as on the Epson MX and FX models.

To use this procedure load it to memory sometime before it is needed and then simply type the word DUMP and sit back for the next few minutes while the system prints your graphics screen.

Special thanks to Mike Tempel of Logo Computer Systems for the information on this screen dump.

```
TO DUMP
SETWRITE "P:
TYPE CHAR 27
TYPE "A
TYPE CHAR 6
EPLINES 16384 48
TYPE CHAR 27
PR "Q
SETWRITE []
END
```

```
TO TYPE2 :CHAR
TYPE :CHAR
TYPE :CHAR
END
```

```
TO EPBYTE1 :BYTE1 :BYTE2 :POS
TYPE2 CHAR ((IF :BYTE1>(:POS-1)[56] [0])+(IF
:BYTE2>(:POS-1) [7] [0]))
IF :POS=1 [STOP]
EPBYTE1 REMAINDER :BYTE1 :POS REMAINDER :BYTE2 :POS
:POS/4
END
```

```
TO EXAM3 :LOC
OP 65536*(EXAMINE :LOC)+256*(EXAMINE :LOC+1)+EXAMINE
:LOC+2
END
```

```
TO SPBYTE :BYTE1 :BYTE2
IF AND :BYTE1=0 :BYTE2=0 [MAKE "SPACE :SPACE+1 STOP]
REPEAT :SPACE [TYPE CHAR 32 TYPE CHAR 32 TYPE CHAR 32
TYPE CHAR 32]
MAKE "SPACE 0
TYPE CHAR 27
TYPE "K
```

```
TYPE CHAR 24
TYPE CHAR 0
EPBYTE1 :BYTE1 :BYTE2 4194304
END
```

```
TO EPLINE :LOC :BYTES :SPACE
IF :BYTES<3 [SPBYTE 65536*EXAMINE :LOC 65536*EXAMINE
:LOC+40 STOP]
EPBYTE EXAM3 :LOC EXAM3 :LOC+40
EPLINE :LOC+3 :BYTES-3 :SPACE
END
```

```
TO EPLINES :LOC NUM
IF :NUM=0 [STOP]
EPLINE :LOC 40 0
PR []
EPLINES :LOC+30 :NUM-1
END
```

APR 83

The Atari Playground and Atari in Wonderland

by Fred D'Ignazio
Hayden Book Company, Inc.
Hasbrouck Heights, NJ
\$9.95 each/ Paperback

Reviewed by Curtis Springstead

Fred D'Ignazio is probably best known for his column, The World Inside the Computer, from COMPUTE! magazine. In this column Mr D'Ignazio pursues the computer as something to interact with. He discusses his experiences with people, primarily children, learning to use and interact with computers.

These books take these ideas to practical programs and ideas for children using computers. Playground is aimed at children 3 to 8 or so while Wonderland continues from there to include children up to 10 or 11. Each book contains just over 20 educational games. All the games are interesting, some are clever but none are meant to be considered state of the art educationally or technically.

The layout for the books are identical, each program is presented in the following format. "For Parents and Teachers" tells the supervising adult what the program does and what its purpose is. "For Kids" is a nice way of introducing the game to children, through a story or anecdote the child is led into the games with something more than a simple explanation that "this will teach you spelling". "The Program" contains the listing and in general they are very clear but occasionally there are little traps in the listings that are strictly a matter of layout. The first two programs you are asked to enter in each book are a happy and sad routine that are included in all the programs to handle the right and wrong messages. The print lines that describe the face are hard to type because you can't tell how many spaces are to be used between the characters. Now indeed this is a minor point but I spent 10 minutes getting my program to print like the book and I've been a programmer for seven years. I knew what I was doing and realized that even if my happy face wasn't like the one in the book that my program would run. But, this book may very likely be one of the first books bought after the computer arrives home and may be the first experience that the novice has when typing programs. To these people the little details can be exasperating since they are frequently terrified that they are making a mistake or may damage their computer. "Highlights" and "Variables" sections discuss the how of the program just typed in, this aspect of the book is what appeals to me most. It allows the person who enters the program to understand and learn from what they are doing and it certainly makes enhancements, which are encouraged by the author, to be made more easily. "Do It Yourself" suggests ways to enhance the programs and to adjust them to the skills of your child.

I tried a few of these games on my kids and they liked them. They were easier to use from my point of view than some other programs I've used and seemed to have been thought out and tested before being included in these books.

Overall I liked the books and felt they were a good value providing good training material for beginning programmers as well as good programs that could be used as is or enhanced into really good educational tools.

APR 83

Adventures With the Atari

Jack B. Hardy
Reston Publishing Co. Inc.
Reston, Virginia
\$14.95, Paperback

Reviewed by Curtis Springstead

Adventure gaming has been one of the largest reasons that people buy computers right after word processing and competes directly with the arcade games. This book will make you an adventure game author. There are six adventures in the book and programs for a command interpreter and an adventure creating program that simplifies the entry of room and map information.

The adventures are presented in three languages, BASIC, PILOT and Microsoft BASIC. There are two games in each language. I was particularly glad to see the PILOT programs in this book since the list processing capabilities of PILOT make it an excellent language for adventure games. The programs are presented in a narrative type of format with the games assembled in blocks so that you can test each part as you go. You move through the program not from start to finish but from beginning to end of the game and from the basic game to the final full blown version. Some of the programming is quite creative such as the method used to work around the lack of arrays in PILOT. The data is stored in fixed memory locations and is read with the @B command.

The creator and interpreter programs given in the book are surely not going to put INFOCOM in any danger but they are quite good and could be embellished by the user if they were found lacking. In addition there is an excellent section on the how's of creating adventures.

I think that adventure type games are an excellent teaching tool applicable to many areas of study particularly those not commonly seen on computers. Foreign languages can be taught by writing the adventure in that language. History or geography could be handled by having the adventure describe an event or place and making the student wander around a setting that reveals more and more about the goal while "seeing" the world as it was then or as the country appears now. The most obvious way that these games could be used is in language arts by encouraging writing and reading skills.

This book would make an excellent source book for people interested in adventure games either for educational purposes or just for fun.



Rainy Day Activities for the ATARI

by Nancy Mayer
Reston Publishing Company, Inc.
Reston Virginia 22090
\$12.95, Large Format Paperback

Reviewed by Curtis Springstead

Here are just over fifty programs that you can type into your Atari and have some fun. All the programs are short, the longest are 20 lines, and easy to key. The sample of programs that I keyed in all worked as printed in the book. That last fact alone could be a reason to buy this book. All the programs are geared to children in the 3 to 9 age range and my 4 and 7 year old seemed happy and challenged by the games and activities of this book.

The programs are not going to set any new limits in the art of Atari programming and the author admits this readily. The idea is that the child keying these in would have a hard enough time just finding all the right keys much less getting clever. If a parent or older child will be keying the programs in for the small fry the brevity is greatly appreciated.

Along the same lines the educational type programs included are not going to push educational computing any farther but my kids enjoyed them and learned from them. There is value, in my opinion, to allowing a computer to be used for drill and practice work if the child wants to do it.

My only complaints about the programs are the lack of easy restart capabilities and some poor examples of programming. All the programs end with some kind of "GAME OVER" message followed by READY or by locking into a loop. You usually have to clear the screen before you could even enter RUN since many of the games leave "debris" or altered screen formats on the screen when they finish. I solved this by developing a universal restart routine that I added to each program so that I didn't have to sit with my kids while they used the programs. The bad habits I found are the line numbering chosen, 1,2,3, etc., and the use of abbreviations for command words. The author explains that the line numbering was chosen to reduce keying since the zeros are "unnecessary placeholders" and are confused with the letter O they have been left out. That is fine but I saw the programs as a source for starting points in a programming class for older children. For example I might say here is a basic shooting program, add better instructions, a difficulty level selection and so on. Since the Atari does not support an automatic line renumbering routine preparing to use these programs would require hand renumbering. The second point has to do with abbreviations. I don't like them. It may be fine to use them when typing but never give anyone, particularly not a novice a listing with the abbreviations in it. The person keying in these programs probably is not a hot shot programmer or they would not need this book, so it is safe to assume that spelling out the commands would only add to the clarity of the programs from a learning point of view. One of the few redeeming values of BASIC is its readability. I believe that every program you put in front of a beginning programmer teaches techniques or style beyond the function of the program.

We have included a sample program from the book to give you an idea of the material included. Overall I feel the book is a good value because it gives many good short programs which are entertaining to the audience intended. In addition they act as seeds for fullfledged program development.

GIVE A BIT!!!

Help Taricon 84

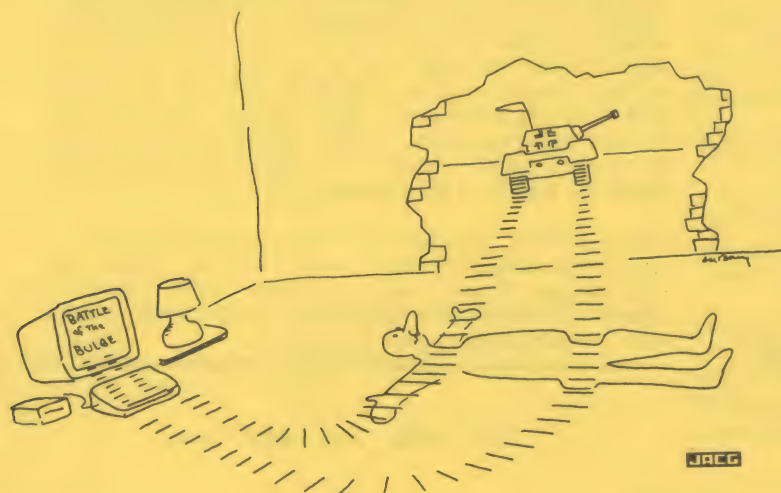
Taricon, the all Atari-related convention coming up this summer, has a commitment from JACG for full support. You can do something which will have great impact on insuring its further success.

Listed below are 800 numbers for many Atari vendors. Call them and tell them how important it is that they be an active part of this convention. If you have time, write them a letter reinforcing your call. How often we hear Atarians complain of the low profile and relative esteem the world at large has for this great computer. Here's your real chance to make some impact.

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Most of these numbers are in California. That means you can call in the evening just before your tv time. Don't be shy. Pick up the phone and call. "I am interested in seeing your products and I can have a chance to see them in person if your are at TARICON 84 in Southfield, Michigan in August", is all you need to say.

If this Taricon is successful there are sure to be more to follow. Perhaps we will sponsor one of the next ones but only if this summer's effort succeeds. Get on the horn tonight!



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Remember, receiving the JACG newsletter is just one of the many benefits of being a member of JACG.

>>>>>>>>><<<<<<<<<<

TRADING POST

Trading Post is a service for JACG members who wish to sell or swap items of any type. There is no charge for this service and material must reach the Editor by the 28th of the month to be considered for inclusion in the following month's Trading Post. No commercial services or items will be accepted.

>>>>>>>><<<<<<<<<

FOR SALE: Atari 400 with 48K and BASIC cartridge and manual. Only \$140. Contact Stan Wisnewski. (201)386-4933 (days).

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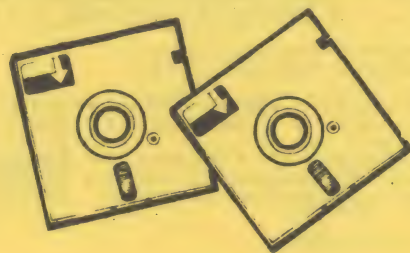
The fame of JACG authors spreads. Below is a partial list of articles from the JACG newsletter which have been reprinted in other user group newsletters. How about your contribution so you can join this growing list?

The R.A.G. Baq, Redwood Atari Group, Santa Rosa, CA
*Improving Filemanager+, R. Rospond

Data Link, Modesto Atari Computer Club,
Modesto, CA
"Art's Arcade"(Feb '84), Art Leyenberger

Portland Atari Club, Portland, OR
 "The Best Monitor For The Atari 800",
 Hank Hirschfeld
 and
 "Color Monitors", Robert Schill

>>>>>>>>>><<<<<<<<<<<<



Convert Atari Binary Load Files to Basic Strings

by Bill Hough - JACC

Bill Wilkinson, of COMPUTE's "Insight Atari" fame, often preaches about the advantages of relocatable machine language strings in BASIC programs. Having played a bit with these concepts, I'm convinced.

Many BASIC programs use strings for machine language routines. Generally, they are initialized by reading DATA statements, with one byte of data corresponding to one character in the string, and then called by a `USR(ADR(STRING$))` statement. Converting ASSEMBLER cartridge object files to BASIC DATA statements manually is a real chore, and Bob Allegre's program, "DATAGEN", contained in his article "Loading Binary DOS Files from BASIC" in COMPUTE's Second Book of Atari, was a Godsend to me. DATAGEN generates BASIC statements that poke the DATA bytes into fixed memory locations derived from the object file header, so the machine language routine does not have to be relocatable.

The program accompanying this article, "USRSTRING", is similar to DATAGEN, but it skips the DATA statement step and creates BASIC statements that directly define the machine language string. Of course, with the string approach, the machine language routine must be relocatable according to the teachings of Wilkinson. Like DATAGEN, USRSTRING reads the object file output of an Assembler from disk (DOS 2), and writes to disk a new file of LISTed statements for later ENTERing into the host BASIC program. The difference is that the LISTed statements are not DATA statements, but a direct definition of the string. A minor advantage is that less program memory is required. The major advantage is speed of initialization. In one of my BASIC programs, where I used seven machine language routines, initialization time was reduced from 20 seconds to less than one second.

There are two characters that can cause trouble with direct string definition. These are the double-quote (") and the carriage-return. These characters don't occur often in machine language programs, but if they do, USRSTRING deals with them by appending BASIC statements to the disk file that insert them directly into the string. They are tracked by a 20x2 array called ARRAY. If these characters occur more than 20 times, the DIMENSION statement in line 100 can be enlarged. I suppose that a routine with many double quotes and carriage returns could cause my approach to consume more program memory than the DATA statement approach, but direct definition of the machine language string will always result in much faster initialization.

USRSTRING is user friendly, and has an option to view the disk directory in case you forget the name of an object file. Recovery from most input errors is automatic, but don't use "D:D" as a filename. The REMarks outline the program functions, always precede the functional segments, and don't have to be typed.

```
98 REM **: USRSTRING by W.W.Hough **
99 REM :Convert Relocatable Binary Load Files to BASIC
Strings
100 DIM
INFILES(15),OUTFILES(15),FILES(20),NAMESTR$(15),ARRAY(20,2)
110 GRAPHICS 0:?:?:?:? " USRSTRING by W. W. Hough"
120 ? :? "To see disk directory, press SELECT To go on,
press START"
130 IF PEEK(53279)=5 THEN 550
140 IF PEEK(53279)=6 THEN 160
150 GOTO 130
159 REM :Get Input and Output File Names, Prefix D: if Needed
160 ? :? "Input OBJECT file name":INPUT FILES:IF FILES=""
THEN GOSUB 590:GOTO 160
170 IF FILES(1,1)="D" THEN IF (FILES(2,2)=":" OR
FILES(3,3)=":") THEN INFILES=FILES:GOTO 190
180 INFILES="D:"INFILES(3)=FILES:FILES=""
```

```
190 ? :? "Input STRING file name (to be ENTERed later)
":INPUT FILES:IF FILES="" THEN GOSUB 590:GOTO 190
200 IF FILES(1,1)="D" THEN IF (FILES(2,2)=":" OR
FILES(3,3)=":") THEN OUTFILES=FILES:GOTO 220
210 OUTFILES="D:"OUTFILES(3)=FILES:FILES=""
219 REM :Get First Two Bytes of Object File, Check for Binary
Load Format
220 TRAP 520:CLOSE #1:CLOSE #2:OPEN #1,4,0,INFILES:OPEN
#2,8,0,OUTFILES
230 GET #1,B1:GET #1,B2
240 IF (B1=255 AND B2=255) THEN ? :GOTO 260
250 GOSUB 590:?:? "Not BINARY LOAD Format":GOTO 530
259 REM :Get Starting Line Number and String Name, Additional
Lines Are Sequentially Numbered
260 TRAP 260:?:? "Input Starting Line Number ":INPUT LNBR
270 TRAP 270:?:? "Input Name of String to be called by USR
function ":INPUT FILES
279 REM :Append $ if Needed
280 IF FILES(LEN(FILES),LEN(FILES))<"$" THEN
FILES(LEN(FILES)+1,LEN(FILES)+1)="$"
290 IF LEN(FILES)<2 THEN GOSUB 590:GOTO 270
299 REM :Calculate Maximum Characters in 3*38 Logical Line
300 MAX=95-2*LEN(FILES):G=0
310 TRAP 520
319 REM :Get Number of Bytes in Object Program
320 GET #1,B1:GET #1,B2:ADDRST=B1+256*B2
330 GET #1,B1:GET #1,B2:ADDREN=B1+256*B2
340 LGTH=ADDREN-ADDRST+1
350 N=INT(LGTH/MAX):M=LGTH-N*MAX
359 REM :Transfer Object File to String on Disk
360 ? #2:STR$(LNBR):" DIM
";FILES;"(LGTH)";":FILES=""":CHR$(34);
370 IF N=0 THEN I=1:GOTO 450
379 REM :Loop for All but Final Line, If " or <CR> Stick in
ARRAY
380 FOR I=1 TO N:FOR J=1 TO MAX:GET #1,B1:IF B1=34 OR B1=155
THEN GOSUB 510
390 ? #2:CHR$(B1):NEXT J:?:? #2:CHR$(34):LNBR=LNBR+1
399 REM :End of Full Lines
400 IF I=N THEN POP :GOTO 430
410 ? #2:STR$(LNBR):"
";FILES;"(I*MAX+1)";":(I+1)*MAX)";":CHR$(34);
420 NEXT I
429 REM :Last Line of String Definition
430 IF M=0 THEN 500
440 ? #2:STR$(LNBR):"
";FILES;"(N*MAX+1)";":(N*MAX+M)";":CHR$(34);
450 FOR J=1 TO M:GET #1,B1:IF B1=34 OR B1=155 THEN GOSUB 510
460 ? #2:CHR$(B1):NEXT J:?:? #2:CHR$(34)
469 REM :Append Lines for " and <CR>
470 IF G=0 THEN 530
480 FOR I=1 TO G:LNBR=LNBR+1:?:? #2:STR$(LNBR):"
";FILES;"(ARRAY(I,1)";":(ARRAY(I,1))";":CHR$(ARRAY(I,2))";
490 NEXT I
500 GOTO 530
509 REM :Subroutine for " and <CR>
510 G=G+1:ARRAY(G,1)=(I-1)*MAX+J:ARRAY(G,2)=B1:B1=0:RETURN
520 GOSUB 590:ERRSAV=PEEK(195):?:? "ERROR No. ":ERRSAV:IF
ERRSAV=170 THEN ? "No such file on disk":?
530 CLOSE #1:CLOSE #2:TRAP 48000:IF ERRSAV=170 THEN
ERRSAV=0:GOTO 560
540 CLR :END
550 ? CHR$(125):FILES=""
559 REM :Show Disk Directory
560 CLOSE #1:OPEN #1,6,0,"D:*.":TRAP 580
570 INPUT #1,FILES:?:? FILES:GOTO 570
580 CLOSE #1:FILES="" :GOTO 160
589 REM :Error Announcement Subroutine
590 POKE 712,68:SOUND 0,136,12,14:FOR I=1 TO 40:NEXT I:SOUND
0,0,0,0:POKE 712,0:RETURN
```

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SYSTEMS GUIDE TO FIG-FORTH

by Donald Forbes - JACG

For a precise and complete definition of Forth and its inner workings addressed to the professional systems analyst we can thank Dr. C. H. Ting, head of NDT Research in the NDT Technology Laboratory of the Lockheed Missiles and Space Company. His "Systems Guide to fig-Forth" in 200 typewritten double-spaced pages illuminates and dissects all the important aspects of Forth. The \$25 book, published June 1981, is available from Mountain View Press, P O Box 4656, Mountain View, CA 94040.

Most of what I have learned in a quarter century as a systems analyst has been from IBM manuals, with their precise no-nonsense description of the IBM 650, 1401, 7070, COBOL, FORTRAN, PL/I, MVS and VM. For the past year I have wished that Forth could have been presented in the same professional manner. I stumbled on Dr. Ting's book by accident, and feel duty bound to give you at least the flavor (in his own words) of his 14 excellent chapters:

PREFACE. Most of the published materials are manuals which teach how to use a particular Forth implementation. Very few deal with the inner mechanisms on how the Forth system operates which is essential to the understanding and effective utilization. My intention here is to describe how the Forth system does all these wonderful things no other language can. Definitions of Forth words will strictly adhere to those defined in the fig-Forth model. Chapter 1 lays down a formal definition of Forth. Chapter 2 is an overview of the fig-Forth operating system. In the rest of the book, each chapter will dwell on a particular area.

1. LANGUAGE DEFINITION. Forth has never been formally defined as a programming language. Forth is mature enough now that it can be defined very rigorously. To define Forth as a programming language also helps us focus on the basic characteristics and to understand it more fully. To solve a problem with a fixed instruction set, one has to write programs to circumvent the shortcomings of the instruction set. The solution in Forth is not arrived at by writing programs, but by creating a new instruction set in the Forth virtual computer. Forth as a programming language allows programmers to be more creative and productive, because it enables them to mold a virtual computer with an instruction set best suited to the problems at hand. In this sense, Forth is a revolutionary development in the computer science and technology.

2. OPERATING SYSTEM. Conventional operating systems share two common characteristics: monstrosity and complexity. To solve a typical programming problem, a user must learn about six to ten different languages under a single operating system. The user is entirely at the mercy of the computer vendor as far as the systems software is concerned. Fig-Forth is a complete operating system in a very small package. The same language and syntax rules are used in all phases of

program development. The bulk of this operating system is the dictionary. The computer is then transformed into a virtual Forth computer.

3. TEXT INTERPRETER. The text interpreter is "the" operating system in a Forth computer. It is absolutely essential that the reader understand it completely. We shall start with the definition, COLD, meaning starting the computer from cold. COLD calls ABORT. ABORT calls QUIT which has the text interpreter, named properly INTERPRET, embedded. This major loop is shown schematically. It is hoped that a graphic diagram will make a lasting impression on the reader to help him understand more clearly the concepts discussed here.

4. ADDRESS INTERPRETER. The address interpreter with an independent return stack thus very significantly contributes to the hierarchical structure in the Forth language which spans [the range] from the lowest machine codes to the highest possible construct with a uniform and consistent syntax.

5. COMPILER. The Forth computer spends most of its time waiting for the user to type in some commands at the terminal. When it is actually doing something useful, it is doing one of two things: executing words, or parsing and compiling the input texts from the terminal or disc. The text interpreter is the compiler in the Forth system, and it is very much being optimized to do compilations just as efficiently as interpretations. Remember that the text interpreter itself is 'doing the job of an assembler.

6. ERROR HANDLING. The fig-Forth model provides very extensive error checking procedures so that compilation results in correct and executable definitions.

7. TERMINAL I/O. The basic primitives handling terminal input and output are KEY and EMIT. KEY accepts a keystroke from the keyboard. EMIT pops an ASCII character from the data stack and transmits it to the terminal for display.

8. NUMERIC CONVERSIONS. A very important task of the text interpreter is to convert numbers from a human readable form into machine readable form and vice versa. Forth allows its operator the luxury of using any number base. He can also switch from one base to another without much effort.

9. DICTIONARY. The dictionary is a linked list of named entries or words which are executed when called by name. The dictionary is maintained as a stack, growing from low memory. A word found in the dictionary will be executed or compiled. The dictionary is thus the bulk of the Forth system, with all the necessary information to make the whole system work.

10. VIRTUAL MEMORY. Since it is physically impossible to have infinite amount of memory inside a computer, the next best thing is the magnetic disk memory. In most mainframe computers, discs are treated as files managed by the operating system, which insulates the programmers from the devices. Forth treats the disc as a direct extension of the core

memory. The programmer can use it freely. The Forth system makes available the entire disk to the programmer, giving him essentially unlimited memory space to solve his problem.

11. DEFINING WORDS AND THE CODE FIELD.

Forth is a major synthesis of many concepts such as stacks, dictionary, virtual memory, and the interpreter. The single most important invention by Charles Moore which wrapped all these elements into a small yet powerful operating system is the code field in the header of a definition. The code field contains the address of a routine to be first executed when the definition is called. That machinery is accessible to the programmer. The code field allows programmers to extend the Forth language to define new data structures or new control structures which are practically impossible in any other high level language.

12. CONTROL STRUCTURES. If it is necessary to alter the sequential execution process at runtime, special words have to be used to set up the machinery of branching and looping, to build the control structures. These special words are equivalent to compiler directives or assembly directives in conventional computer languages. These words ensure correct execution at runtime.

13. EDITOR. As in any other language processor, the editor is the principal interface between a programmer and the computer. A good editor makes the programming tasks easier, and in some rare cases enjoyable. A text editor provides important and extensive examples in using the Forth language to handle texts and strings.

14. ASSEMBLER. Using the data stack and the postfix notation greatly facilitates the assembling process in the Forth assembler. This is a very small price to pay for the capability to access the host CPU and to make the fullest use of the resources in a computer system.

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A Kid's Eye View

By P.E. Semel

Bruce Lee Kicks A Hole In Your Joystick

It has been a few years since the death of Bruce Lee, yet his legacy still lives on in movies, erasers, and lunch boxes. Now the Kung-Fu master has conquered the video world in a new game by DataSoft. Like his movies, it is full of chops, flying leaps, and lots of fun. The graphics are a lot like that of Activision's Pitfall and is controlled by a joystick. The object of the game is to gather all the lanterns on each level, which is made of three boards that are next to each other. Then you can go on to the next level. But you are not alone, there are two adversaries that are chasing you, the Ninja, and Baba Yut (or something like that). The Ninja is a thin black figure while Baba looks like a Sumo Wrestler. You can kick, leap, chop, duck, or do a flying kick. Baba and the Ninja can do all those things except for ducking.

If you hit them hard enough and often enough, they are knocked out. But if they do that to you, you can lose a life. You only have three but I think you get a free one at 10,000. Points are awarded for striking a blow, knocking out an opponent, or getting a lantern. There are two players and another person can be your opponent instead of the computer. The game is from DataSoft for \$34.95

Electronic Arts Sends Out An AXIS ASSASSIN

One of my favorite arcade games was the ever popular Tempest by Atari. I can remember spending many days and quarters trying to get to the next board. When I got my Atari 800, I hoped that a translation of my favorite game would soon be available. Although Atari didn't answer my call, Electronic Arts did with Axis Assassin. But Axis Assassin is not Tempest, it is merely a deviation from the norm.

Axis Assassin places you on a plane in space. There are many creatures which are out to destroy you. You do have a laser cannon so you can shoot at them too. You can go left and right along the edge or you can travel down the plane toward the opposite side, and then go left and right. The plane is made up of lanes and there may be barriers blocking your way. You can and will have to shoot them down. When the large spider appears at the opposite side of the plane, you have to shoot it down to go on to the next board.

The game has three skill levels: one which is very easy, one which is really hard, and one which is just right. There are twenty different shaped boards including V's, U's, and W's. After you have conquered them, you go on to the next colored level, of which there are five. The orange is the first, and is followed by the blue, white, multi-colored, and then an invisible. You can start on every other board starting with the first. The higher board that you start on, the bigger the bonus received when the first board is completed. The game is \$34.95 from Electronic Arts.

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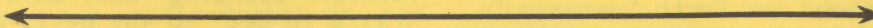
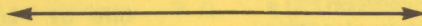
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How To Order



PROGRAM LIBRARY. The legendary JACG library contains programs to entertain, confound, amuse, delight, and assist you. These have been selected from member contributions and by exchange and contribution from other Atari clubs throughout the world. No program is warranted or guaranteed in any way by JACG or any other party, and JACG accepts no responsibility other than to replace at no charge any disk or tape found to be physically defective.

The library is public domain material. It is JACG library policy to not knowingly include in the library any commercial or copyrighted software, except by permission of the owner.

The library is organized into volumes for duplication purposes. While the software itself is considered free to members, and members are free to exchange or duplicate the software, we do charge for disks and tapes. These charges cover costs of media, wear and tear on the library tape and disk drives, and postage.

OBTAINING VOLUMES. The disk library is available at all JACG monthly meetings. Disks may be obtained in the lobby before each meeting. There is a charge of \$5.00 per volume (one disk of programs). We provide the disks.

TAPE VOLUMES. Some but not all of the library programs can be transferred to and will work on cassette based Atari systems. We have two tape librarians who attempt to provide volumes on that media. These volumes (one tape of programs) mirror the disk volumes, except omitting any programs that require a disk to operate. The charge is \$5.00 per tape volume. Owing to the difficulty of maintaining a full inventory on tape, you may have to take potluck, or ask for a specific volume to be custom duplicated for you, to be picked up at the next meeting.

BUT I LIVE in ALASKA! Yes, we know. You can order disk volumes by mail. These are \$6.00 per volume. Send a check for the proper amount (not cash) made out to JERSEY ATARI COMPUTER GROUP and specify the volumes desired. Send to:

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Do NOT send S.A.S.E or blank disks when with mail orders. The \$6.00 fee takes care of all that.

We DO NOT accept mail order requests for tapes at present. (The solution is to order the disk volume and then visit a friend who has a disk and copy over the programs to tape).

CONTRIBUTIONS to the library are very welcome. Don't be shy - if YOU think what you invented is neat, other members probably will too! Send in your creation on a disk. We'll return the disk with a couple of free programs and maybe some helpful advice on how to make it even more fantastic.

DOCUMENTATION AND ADVICE is the other service your library provides. If you are stuck on a programming or operational problem, or need info about current hardware or software, feel free to give me a call evenings or weekends at (201) 895-2522. We have experience with or information on every programming technique, program, or peripheral that works on the Atari. JACG can't circulate documentation but we can answer questions or get you to someone who can



DISK volume 043 HOME/BUSINESS 003					
DISK FILENAME	CLASSIF	LANG	WHAT IT DOES	REQUIRES	HOW TO LOAD
043 MICRODOS.OBJ	HUMAN	m1	a handier replacement for DOS	16K BAS	dosload
			are you annoyed at the delay caused by having to exit BASIC (and your program) in order to perform disk functions? here is the answer. after loading MICRODOS.OBJ, you can type DOS and immediately get a short menu of commonly needed functions instead of having to load all of DOS. after doing your thing, you can either jump back into basic or decide to exit to the full dos. functions supported include formatting, this is m1, not BASIC, so it sits there quietly until you need it, and does not get in the way of your programming. if you rename the file as AUTORUN.SYS, it will load automatically when you turn on your system.		
AUTOMAIN	HUMAN	BASIC	a reminder system for car maintenance	16K BAS	basload
			this is a full, well engineered application package to take care of scheduling and recording the maintenance work that your automobile is recommended to have. given mileage, the program will look up and print a list of the maintenance items that should be attended to, such as alignment, lubes, fluid checks, brakes, etc. the package also allows recording all work that has been done to date. this is a least effort way to be sure that your car gets the consistent servicing that it needs.		
CHECK	HUMAN	BASIC	a checkbook reconciliation system	16K BAS	basload
			now its your computer against the bank's computer. a nicely done aid to balancing monthly transactions.		
STAT			statistics BASIC statistical analysis package	16K BAS	basload
			also on volume 28, but repeated here because of business usefulness. you enter a series of numbers, the program computes and displays basic statistics about the series: total of all values; mean; median; stddev; frequency and cum'l frequency. refer to vol 28 description for quick changes to allow the program to take data from a saved disk file as well as from keyed-in data.		
CALC			math BASIC spreadsheet calculator package	32K BAS	basload
			not exactly like visicalc, but allows you to do much of the same job. memory is set up as a row/column matrix that acts as a spreadsheet (a scratchpad columnar tabulation worksheet). you can freely enter data by row, or by column. the package allows rowwise or columnwise arithmetic including totalling, averages and percentages. the program is easy to use, and best of all (unlike visicalc), it's in BASIC. so, if you want to, you can change it or add fancier calculation options to suit yourself.		
CALENDAR	human	BASIC	prints a daily calendar for any month	16K BAS	basload
			input the month and year and you'll get a neat calendar for that month on your printer.		

DISK volume 044 GAMES 015					
DISK FILENAME	CLASSIF	LANG	WHAT IT DOES	REQUIRES	HOW TO LOAD
044 TIMEYRLS	arcade	BASIC	race car game	16K BAS	basload
DARTS	arcade	BASIC	video dart game with varying gravity	16K BAS	basload
FASTBOMB	arcade	BASIC	an anti-missile game	16K BAS	basload
CHECKERS	simul	BASIC	play checkers against the computer	16K BAS	basload
			this uses a redefined character set for the playing pieces.		
TESTMENU.FNT	data	n/a	used by CHECKERS (char set datafile)	n/a	n/a
SEABATLE	graphic	BASIC	TWO-PLAYER GAME destroyer vs. u-boat	16K BAS	basload
			use joysticks to maneuver your ship and fire button to drop charges or fire torpedoes.		
TICTAC	simul	BASIC	play TIC-TAC-TOE against the computer	16K BAS	basload
			has a nice, large graphic display		
BATLSHIP	simul	BASIC	the classic game of BATTLESHIP	16K BAS	basload
			attempt to find and sink the opposing fleet before it finds and sinks yours. the computer takes care of all the work so that no paper or pencils are needed.		
SPIDER	arcade	BASIC	you are a fly. evade the nasty spider	16K BAS	basload
			you must move up the screen in a series of jumps, while the computer spider tries to figure out and anticipate your moves to trap you.		
CORRECT.FNT	data	n/a	character set data for SPIDER game	n/a	n/a
SOLITAIR	simul	BASIC	play card game of SOLITAIRE	16K BAS	basload

DISK volume 045 SPECIAL 003 - JACS programming contest 1983					
DISK FILENAME	CLASSIF	LANG	WHAT IT DOES	REQUIRES	HOW TO LOAD
045 MEMOPAD.BAS	HUMAN	BASIC	Executive Memo Pad by Sheldon Becker	16K BAS	basload/autorun
			Grand Prize Winner. This ingenious system is a computerized appointments list, reminder system, or whatever you'd like to use it for. It has all the basic functions already there, yet is programmed simply and clearly enough that it is easy to understand, change, and enhance with custom features.		
			You can enter a one line text entry keyed by a date stamp. (multi line entries are possible if you just enter a sequence of one-liners all with the same date stamp - they will be kept together for sorting and searching.		
			Searching the file is done by menu choice - you can retrieve the entries for one particular date, a range of dates, or ALL entries. Items in the list are always kept in sorted sequence and are sorted automatically as entered so unlike database programs, you don't have to worry about this or do anything special to accomplish it.		
			Other menu options are to delete obsolete entries and to save to or load from disk. And your printer is supported.		
			It is easy to make this program handle a whole disk full of separate datafiles, if you like, or to make it work with cassette instead of disk. As supplied, one interesting feature is that the date key is really treated simply as a string key. This means that it doesn't HAVE to be a date - it can be anything that you want the entries arranged by. Perhaps magazine articles by topic, or your program library by topic or name.. Use your imagination.		
			If you want a self booting disk, copy MEMOPAD.BAS, MEMO.DAT and MEMOPAD.SYS to an empty disk that you have formatted and written DOS onto. Rename MEMOPAD.SYS as AUTORUN.SYS. You now have only to insert the disk and turn on the computer to begin using MEMOPAD.		

Editor's note: Disk 045 contains two more files; AFRICA, an African safari game, and JACS Airman, an arcade game. Space limitations prevent completing the listings at this time. Next month's newsletter will continue the disk library with details of these two files plus Disks 047 (PILOT programs), 048 (Games), 049 (XL Translator 1), 050 (XL Translator 2), and 051 (Graphic/Sound). It is likely that new disks will be added to the growing library and they will appear in the July issue.

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JACG NEWSLETTER - VOLUME 3, NUMBER 10

June 1984

J A C G EXECUTIVE COMMITTEE

President: Richard Kushner
58 Dewey Avenue
High Bridge, NJ 08829
(201) 638-8732 (home)
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Vice Pres.: Curtis Springstead
4 Paul Place
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201 Lake Valley Road
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Randolph, NJ 07869
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Editor: Frank Pazel
Denville, NJ 07834
(201) 627-8845

148 Center Avenue
Chatham, NJ 07928
(201) 635-2936

BBS Sysop: Scott Brause
12 Bradford Road
Edison, NJ 08817
(201) 549-0878

Editor at Large: Art Leyenberger
40 Lawrence Road
Parsippany, NJ 07054
(201) 887-2861

Advertising: Herb Lehner
1375 Blair Court
Bridgewater, NJ 08807
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Disk Librarians:
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